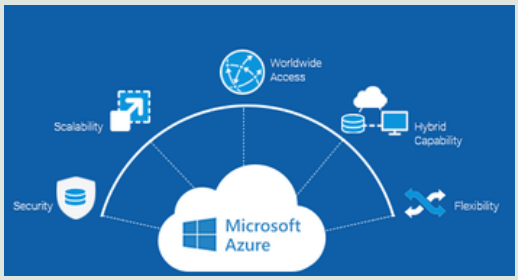
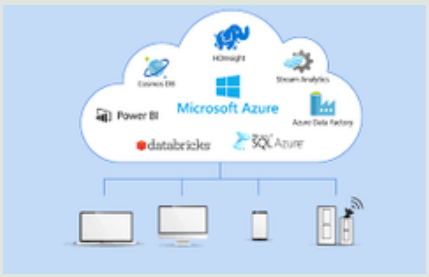
E - BUZZ...

Reminiscing on the good times...

P.E.S. MODERN COLLEGE OF ENGINEERING
October 21 13th EDITION
DEPARTMENT OF ELECTRONICS AND TELECOMUNICATION

Cloud Computing Service : Microsoft Azure





Microsoft Azure, is a cloud computing service operated by Microsoft for application management via Microsoft-managed data centres. It provides software as a service (SaaS), platform as a service (PaaS) and infrastructure as a service (IaaS) and supports many different programming languages, tools, and frameworks, including both Microsoft-specific and third-party software and systems.

Services provided:

Computer services:

Virtual machines, infrastructure as a service (IaaS) allowing users to launch general-purpose Microsoft Windows and Linux virtual machines, as well as preconfigured machine images for popular software packages. App services, platform as a service (PaaS) environment letting developers easily publish and manage websites. WebJobs, applications that can be deployed to an App Service environment to implement background processing that can be invoked on a schedule, on demand, or run continuously. The Blob, Table and Queue services can be used to communicate between WebApps,XYZ,iOS Softwares and WebJobs and to provide state.

Identity:

Azure Active Directory is used to synchronise on-premises directories and enable SSO (Single Sign On).

Azure Active Directory B2C allows the use of consumer identity and access management in the cloud.

There are many more services like - Data Management, Messaging, Media Services, CDN,etc

Regional Expansion:

In 2018, Azure was available in 54 regions, with 12 new regions being developed. Microsoft became the first large cloud provider that built facilities in Africa, with two regions in South Africa.[An Azure geography contains multiple Azure Regions, such as for example "North Europe" (Dublin, Ireland), "West Europe" (Amsterdam, Netherlands). Where a location represents the city or area of the Azure Region. Each Azure Region is paired with another region within the same geography; this makes them a regional pair. In this example, Amsterdam and Dublin are the locations which form the regional pair.

Source: https://en.wikipedia.org/wiki/Microsoft_Azure

Our Vision

To impart holistic Education in Electronic and Telecommunication Engineering to create engineers equipped to meet the challenges of a dynamic, global environment.

Our Mission

To impart quality Education in the field of Electronics, Communication and Signal Processing, by providing a comprehensive learning experience.

To provide avenues to encourage students to continue education in diverse fields.

To develop competent Engineers, well-versed in multi-disciplinary fields. To inculcate ethical and professional values in our students to endow society with responsible citizens.

Deep Learning

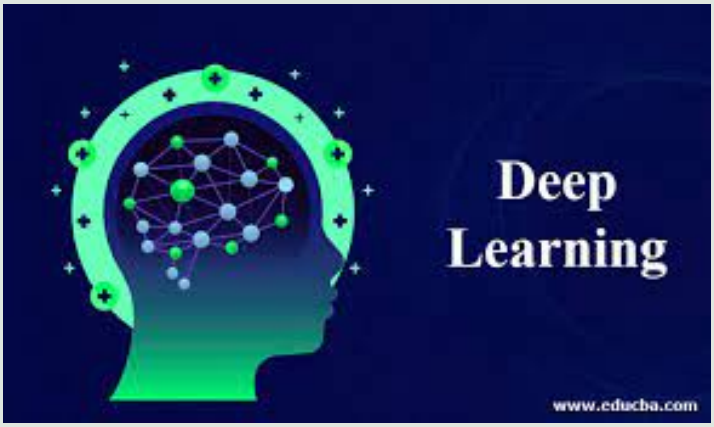
Deep learning is a type of machine learning and artificial intelligence (AI) that imitates the way humans gain certain types of knowledge. Deep learning is an important element of data science, which includes statistics and predictive modelling. It is extremely beneficial to data scientists who are tasked with collecting, analyzing and interpreting large amounts of data; deep learning makes this process faster and easier. At its simplest, deep learning can be thought of as a way to automate predictive analytics. While traditional machine learning algorithms are linear, deep learning algorithms are stacked in a hierarchy of increasing complexity and abstraction. To understand deep learning, imagine a toddler whose first word is dog. The toddler learns what a dog is -- and is not -- by pointing to objects and saying the word dog. The parent says, "Yes, that is a dog," or, "No, that is not a dog." As the toddler continues to point to objects, he becomes more aware of the features that all dogs possess. What the toddler does, without knowing it, is clarify a complex abstraction -- the concept of dog -- by building a hierarchy in which each level of abstraction is created with knowledge that was gained from the preceding layer of the hierarchy.

Computer programs that use deep learning go through much the same process as the toddler learning to identify the dog. Each algorithm in the hierarchy applies a nonlinear transformation to its input and uses what it learns to create a statistical model as output. Iterations continue until the output has reached an acceptable level of accuracy. The number of processing layers through which data must pass is what inspired the label deep.

In traditional machine learning, the learning process is supervised, and the programmer has to be extremely specific when telling the computer what types of things it should be looking for to decide if an image contains a dog or does not contain a dog. This is a laborious process called feature extraction, and the computer's success rate depends entirely upon the programmer's ability to accurately define a feature set for dog. The advantage of deep learning is the program builds the feature set by itself without supervision. Unsupervised learning is not only faster, but it is usually more accurate.

Different Deep Learning Methods are Learning rate decay, Transfer learning, Training from scratch and Dropout.

Source:https://www.techtarget.com/searchenterpriseai/definition/deep-learning-deep-neuralnetwork#:~:text=Deep%20learning%20is%20a%20type,includes%20statistics%20and%20predictive%20modeling.



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From The Principal's Desk:

The release of the 13 th edition of the current Year's E-Newsletter, E-Buzz of the E&TC department, is a proud moment for us. I appreciate and applaud the efforts taken by faculty and students of E&TC department who have used various ways to express their ideas and talents. This indicates that there are greater heights to be reached and a brighter future ahead.

Dr. Mrs.K.R.Joshi

From The HOD's Desk:

It's a gratified moment for me to pen few words on the occasion of the release of 11th edition of departments biannual E-Newsletter, E-Buzz. Year by year our newsletter is reaching new heights and fulfilling all our expectations. I wish grand success to the editorial team and wish them good luck.

Dr. Mrs.R.S Kamathe

From the Editor's Desk:

It is with great pride that our department presents to you, the 13 th edition of our News Letter named E-Buzz. I congratulate my team for their tireless efforts and their commendable job in making this workout. We look forward to such publications in near future.

Mrs. S.V Thuse

Program Educational Objectives :

The Electronics and Telecommunication Engineering Department of P.E.S's MCOE will develop graduates who,

1. having diverse skills, will be able to pursue careers as Entrepreneurs, Engineers or Managers in Private or Government Sectors.

2. can continue their Education in the same field or diversify to Multi-disciplinary fields to emerge as Managers, Researchers or Teachers.

3. will continue their learning experience to be able to flourish and contribute to meet future challenges.

4. will practice Ethical standards keeping in mind their social responsibilities and be able to lead teams of professionals around the World

AUTHORS

Dr. John G. Kassakian

Dr. John G. Kassakian is Professor of Electrical Engineering at the Massachusetts Institute of Technology. His field of expertise is power electronics and automotive electrical systems. He received his undergraduate and graduate degrees from MIT, and prior to joining the MIT faculty, he served a two year tour of duty in the US Navy.

Dr. Kassakian was the Founding President of the Institute of Electrical and Electronic Engineers (IEEE) Power Electronics Society, served as the US representative to the European Power Electronics Association, and is the recipient of the IEEE Centennial Medal, the IEEE William E. Newell Award, the IEEE Power Electronics Society's Distinguished Service Award, the IEEE Millennium Medal, the European Power Electronics Association Achievement Award, and the Kabakjian Science Award. In 1989 he was elected a Fellow of the IEEE and in 1993 he was elected to the National Academy of Engineering. In 1993 he was also awarded an IEEE Distinguished Lectureship through which he has lectured internationally. He has published extensively in the areas of power electronics, power systems, education and automotive electrical systems, co-chaired the MIT study "The Future of the Electric Grid" and is a co-author of the textbook Principles of Power Electronics.

Source: https://www.rle.mit.edu/kassakian/

Tore Undeland

Tore Undeland has publications on topics like - Wide band gap semiconductor, silicon compounds, MOSFET, driver circuits, inverters, DC-AC power converters, AC-DC power converters, battery powered vehicles, electromagnetic compatibility, electromagnetic interference, energy storage, rectifiers, delay, capacitors, busbars, etc

Tore Undeland (Fellow, IEEE) was born in Bergen, Norway, in 1945. He received the M.Sc. and Ph.D. degrees from the Norwegian University of Science and Technology (NTNU), Trondheim, Norway, in 1970 and 1977, respectively. Since 1970, he has been with the NTNU, where he has been a Full Professor since 1984 and a Professor Emeritus since 2013. He has also been an Adjunct Professor with the Chalmers University of Technology, Gothenburg, Sweden, since 2000. He is a co-author of the well-known textbook Power Electronics: Converters, Applications, and Design. His research interests include power converters, snubbers, and control in power electronics and has authored and coauthored more than 200 papers.,Prof. Undeland was the Chairman of the European Conference on Power Electronics and Applications, 1997, Trondheim, has served as the President of the European Power Electronics and Drives Association, and is a member of the Norwegian Academy of Technological Sciences. He was active in the IEEE Power Electronics Society, where he also has been a Distinguished Lecturer

Source: https://ieeexplore.ieee.org/author/37272447600

ACTIVITIES

BOOTCAMP ON VERSION CONTROLLING WITH GIT AND GITHUB.

Date & Day: **17/08/21, Tuesday**

Mode of Conduction: **Microsoft Teams**

Objectives:

1. Understanding of version control system concepts

2. Confidence to utilize version controlling systems

Summary of the Activity/Event: **In this boot camp, students were taught Version control that helps to record changes made to a file on git hub over time so that it can be recalled later. Students were shown practically how to use version control on GIT hub.**

Outcome: **Students were able to understand the concept and apply the version controlling using GIT and GITHUB.**

BOOTCAMP ON API CREATION WITH STREAMLIT

Date &Day: **6/9/21, Monday**

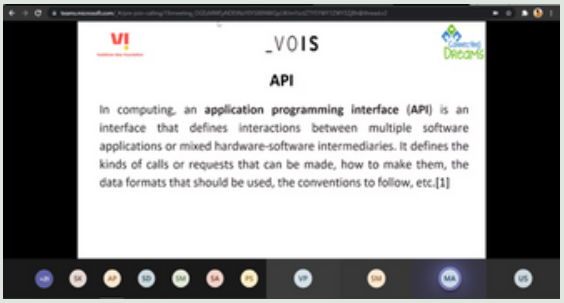
Mode of Conduction: **Microsoft Teams**

Objectives:

Ability to create API using StreamLit, Ability to deploy the API on web using HEROKU.

Summary of the Activity/Event: **Students were introduced to the concept of API. The speaker demonstrated how to use StreamLit to create an API. Students were also guided to host the API on a cloud using Heroku and github.**

Outcome: **Students learnt to build API nad host it on Cloud.**



TRAINING AND PLACEMENT ORIENTATION SESSION

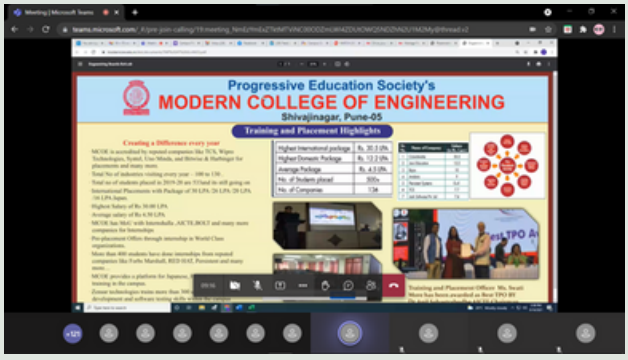
Date & Day: **16/9/21, Thursday**

Mode of Conduction: **Microsoft Teams**

Objectives: **To get students acquainted with skills required for placement, to provide thorough career guidance.**

Summary of the Activity/Event: **Speaker introduced Students with the T&P cell thoroughly and the work it has done in campus recruitment. Students were explained the importance of aptitude skillset required and professional code of conduct. Students were given an insightful glimpse of events that are going to be organized by T&P cell in future.**

Outcome: **Awareness about the skills that play an important role in placements and overall personality development.**



EXPERT TALK ON ART OF WORKSPACE COMMUNICATION

Date & Day: **3/9/21, Friday**

Mode of Conduction: **Microsoft Teams**

Objectives: **To describe the importance of workspace communication.**

Summary of the Activity/Event: **The speaker has initially explained importance of workplace communication that helps to streamline internal communication. Then the speaker explained all the aspects of communication such as eye contact, vocal clues, gestures and written communication.**

Outcome: **Understanding of importance of communication skills has improved.**

CAREER OPPORTUNITIES AFTER GRADUATION - GATE

Date & Day: **12th July 2021, Monday**

Mode of Conduction: **Online (Zoom)**

Objectives: **To provide adequate information about GATE, PSU's Exams**

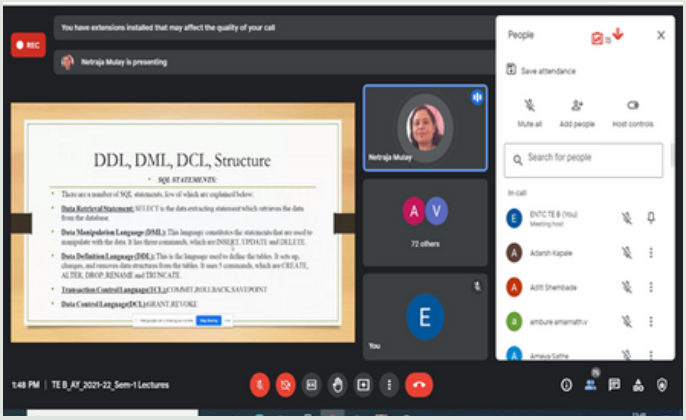
Summary of the Activity and Event: **Speaker began his session with a thought of how to think beyond BE degree. He shared important career opportunities for an Engineering graduate. He listed many government agencies which recruit engineers on GATE score. He made different avenues open which students were not aware of and motivated students to start preparing for GATE exam and score well in it.**

Outcome: **Students were encouraged to prepare for competitive examinations after Engineering**

FUNDAMENTALS OF PL/SQL

Date & Day: **24/08/2021, Tuesday**

Mode of Conduction: **Google meet**



Objectives: **To get the knowledge of PL/SQL Queries. To Create database using MySQL software Oracle Database.**

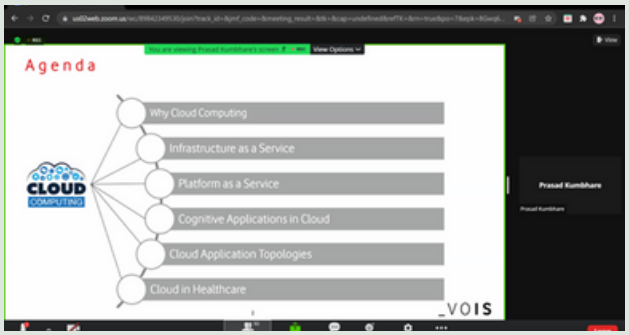
Summary of the Activity/Event: **The Session covered Command types (DDL,DCL,DML), and applications of those commands in RDBMS. Speaker has explained how to create a database according to constraints using various SQL commands such as Insert, Update, Delete and Retrieve etc. using ORACLE Database.**

Outcome: **Students learnt different queries for SQL and how to write PL /SQL blocks according to the application.**

EXPERT TALK ON CLOUD COMPUTRING

Date & Day: **3/12/2021, Friday**

Mode of Conduction: **Zoom**



Objectives: **To get students acquainted with Cloud Computing, it's Architecture and different services provided by the cloud operator companies.**

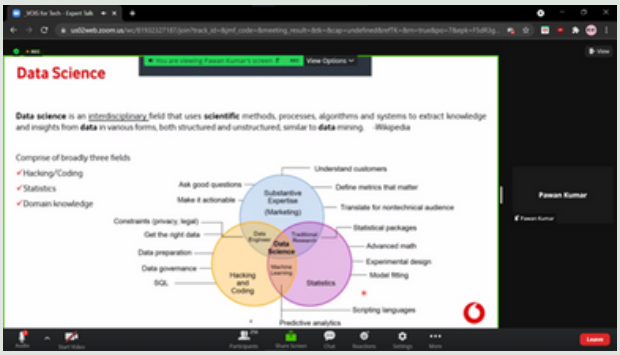
Summary of the Activity/Event: **Speaker introduced students with Cloud Technologies and the architecture on which cloud technologies are based. Students were explained services provided by the cloud provider companies. The session was concluded with a QnA session which was very enlightening.**

Outcome: **Students were introduced to cloud computing concepts & cloud architecture.**

EXPERT TALK ON DATA ANALYTICS - INSIGHT & USECASE

Date & Day: **8/10/2021, Friday**

Mode of Conduction: **Zoom**

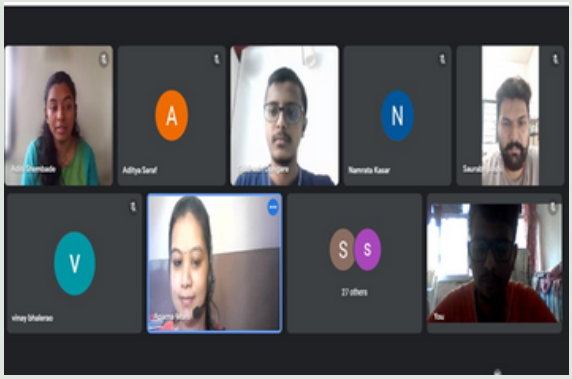


Objectives: **To get students acquainted with entry level skills needed to start a career in Data Analytics.**

Summary of the Activity/Event: **The expert commenced the session with a brief introduction, need and future of Data Science and related fields. Various methods in data analytics were explained such as regression, classification, clustering, and trends in data. Resemblance between the Telecom industry and data industry was explained very well by the speaker.**

Outcome: **Students learnt skills and expertise required in field of Data Analytics.**

TITLE OF ACTIVITY: EXTEMPORE COMPETITION



Date & Day: **15/9/21, Wednesday**

Mode of Conduction: **Google meet**

Objective: **To help students develop confidence.**

Summary of the event: **TEESA organized an Extempore Activity so as to give a chance to the students to develop their soft skills. The activity was judged by Ms. Shreya Joshi, Mr. Saurabh Joshi and Mr. Niranjan Parandkar. The whole aim of this activity was to make students come out of their comfort zone and put forth their thoughts regarding an impromptu topic.**

Outcome: **The activity helped all students to inculcate soft skills and understand the importance of public speaking skill.**

EXPERT TALK ON "REAL TIME APPLICATIONS OF MICROCONTROLLER IN INDUSTRIES"

Date & Day: **13/12/21, Saturday**

Mode of Conduction: **Google meet**

Objectives: **To help students learn selection criterions of controller.**

Summary of the Activity/Event: **Based on the premise that everyone knows the importance of Microcontroller in Industries, Mr. Mubarak Tamboli in his presentation highlighted, what is Controller then the definition of Microcontroller. He explained how to interface LED & RTC with microcontroller and points related to it. He also said some key points related to Embedded Hardware design.**

Outcome: **Students learnt the real time applications of microcontroller in Industries.**

GUEST LECTURE ON DESIGNING A WEBPAGE

Date & Day: **25/8/21, Wednesday**

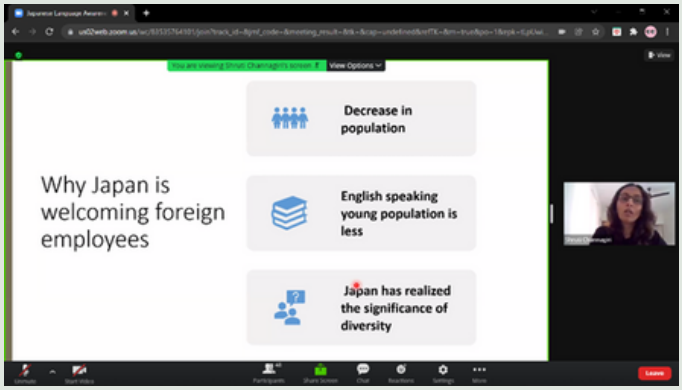
Mode of Conduction: **Microsoft Teams**

Objectives: **To develop web designing skills.**

Summary of the Activity/Event: **Mrs. Jayaprabha ma'am covered all points from what is a webpage, what is html, basics of html, html elements and attributes to CSS and HTML JavaScript. All the students learnt the basics required for designing a web page.**

Outcome: **The activity helped the students to learn the basics of designing a web page.**

GUEST LECTURE ON AWARENESS OF JAPANESE LANGUAGE



Date & Day: **28/12/21, Tuesday**

Mode of Conduction: **Zoom**

Objectives: **To provide students insights about the importance of foreign language e.g., Japanese language in the field of Engineering and career opportunities.**

Summary of the Event: **The Guest introduced students with the importance of being multilingual professionals. The speaker explained students about benefits of learning Japanese language and the career opportunities available for engineers having foreign language proficiency. Event concluded with a QnA session.**

Outcome: **Students got familiar with the opportunities and importance of foreign language in Engineering field.**